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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/220,277	12/23/1998	JAN HERMANUS ELENBAAS	PHA23.590	3711

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EXAMINER

HUYNH, SON P

ART UNIT PAPER NUMBER

2611

DATE MAILED: 05/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

HG

Office Action Summary

Application No.

09/220,277

Applicant(s)

ELENBAAS ET AL.

Examiner

Son P Huynh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 1998.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5-7, 27-32, 34-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 5 - 7, 27 -32, the phrase " at least one each story segments" is not clear. Appropriate correction is required. The examiner interpreted this as "at least one of the story segments."

Regarding claims 34 - 40, the phrase "the user interface of claim" does not particularly point out to a specific claim, making the claims indefinite. Appropriate correction is required. The examiner interpreted this as:

Claims 34, 37, 39, 40 depend on claim 33;

Claim 35 depends on claim 34.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1 – 10, 13-17, 27-34, 37, 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Dimitrova (US 6,363,380).

Regarding claim 1, Dimitrova discloses a story segmentation device 10 receives multimedia signal input, the story segmentation device 10 comprising: video shot

parsing device 102, audio parsing device 104, text parsing device 106 and event model recognition device 112, wherein the combination of these devices read on the story segment identifier being claimed, and the classification device 114 reads on the classifier being claimed (see figures 1-2 and 6A).

Regarding claim 2, Dimitrova discloses the multimedia signal includes closed caption, and the text parsing device 106 partitions the text stream into text segment corresponding to story segment and the classification device 114 associates the one or more classification to the at least one each story segment based on the at least one text segment (see figures 1-2 and 6A).

Regarding claim 3, Dimitrova discloses the multimedia signal includes audio stream, and the audio parsing device 106 partitions the audio stream into audio segment corresponding to story segment, and the classification device 114 associates the one or more classification to the at least one each story segment based on the at least one audio segment (see figures 1-2 and 6A).

Regarding claim 4, Dimitrova discloses a system as discussed in the rejection of claim 3. Dimitrova further discloses speech recognizer or voice recognition software and closed caption (see col. 1, line 61- col. 2, line 60). Inherently, the audio-to-text converter is included in the classification device for converting audio segment to text segment.

Regarding claim 5, Dimitrova discloses retrieve broadcast television signal including video shots based on their visual content (see col. 1, line 40- col. 2, line 17) or recognizing a person (see col. 12, line 1). Inherently, the system includes a visual characterizer for providing a visual characterization of at least one each story segment of the plurality of story segments based on an image content of the at least one each story segment, and the classifier associates the one or more classification to the at least one each story segment based on the visual characterization.

Regarding claim 6, Dimitrova discloses the visual characterizer includes a drawing (e.g., flow charts) a face recognition (e.g., lip, eye, and head movement) (see col. 2, lines 1-10). Inherently, a figure recognizer is included in the system for recognizing the drawing or face based on the image content.

Regarding claim 7, Dimitrova discloses the visual characterizer includes a flesh tone recognizer (see col.12, lines 1-14).

Regarding claim 8, Dimitrova discloses the "story segment identifier" partitions the multimedia signal based on a video cut (see col. 9, lines 52-65).

Regarding claim 9, Dimitrova discloses the one or more classification include keyword (see figure 6A).

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Regarding claim 10, Dimitrova discloses a system as discussed in the rejection of claim 1. Dimitrova further discloses one or more key frame in each story segment (see col. 10, lines 20-26). Inherently, each story segment of the plurality of story segments includes one or more scenes and one or more key frames correspond to a frame within each or the one or more scene.

Regarding claim 13, Dimitrova discloses the multimedia signal is communicated from at least digital signal broadcast, analog signal broadcast, internet connection (see col. 8, lines 45-55).

Regarding claim 14, Dimitrova discloses the story segmentation device further including a storage device that stores the plurality of story segments (see figure 1 or col. 8, lines 46-48).

Regarding claim 15, Dimitrova discloses the storage device is a VCR (see col. 8, lines 50-51).

Regarding claim 16, Dimitrova discloses at least one of the one or more key frames is a video clip (see col. 15, lines 52-56).

Regarding claim 17, Dimitrova discloses a story segment retrieval device including comparing the input key frame or key word with the key frame or key word

stored in the storage device and retrieving only one or more story segments that matches the input key frame or key word, and the corresponding index will specify the video story with the key frame with is most similar to the image input and the output will be displayed on the display device 30 (see col. 14, line 54 – col. 5, line 36 and figure 1). Inherently, a “filter” is included in the system to identify one or more filtered story segments of the plurality of story segments based on the one or more classifications that are associated with each story segment.

Regarding claim 27, Dimitrova discloses a video device comprising:
a classification device that classifies a plurality of segments of a multimedia signal by producing a classification based on at least one of text, audio, or visual information associated with each segment of the plurality of segments, and
a retrieval device that facilitate a selection of an at least one segment of the plurality of segments by matching the classification of the at least one of plurality of segments to and at least one user preference (see figure 1 and col. 14, line 54-col. 16, line 7).
Inherently, the key frame is displayed on the display device 30.

Regarding claim 28, Dimitrova discloses storage device 20 coupled to the display device 30 (see figure 1). Inherently, the storage device 20 communicates the at least one of each segment of the multimedia signal to the display device 30 based on the selection of the segment.

Regarding claim 29, Dimitrova discloses the storage device 20 that stores the plurality of segments (see figure 1).

Regarding claim 30, Dimitrova discloses the video device is a computer systems (see col. 1, line 9).

Regarding claim 31, Dimitrova discloses a device as discussed in the rejection of claim 30. Dimitrova further discloses the multimedia signal is a broadcast signal as discussed in the rejection of claim 13. Inherently, the device including a prefilter such as a tuner for filtering a multichannel input to provide the multimedia signal based on the at least one user preference.

Regarding claim 32, Dimitrova discloses the "prefilter" filters the multichannel input based on a program guide (see col. 11, lines 48-52).

Regarding claim 33, Dimitrova discloses a video retrieval device wherein the combination of parsers and event model recognition devices generates identified keyframes for each segment (see col. 4, lines 26-28); and when a known keyframe can be specified as the retrieval criteria, all of the extracted keyframes are compared with the given keyframe. The comparison is performed using content-based image retrieval (see col. 15, lines 1-36). Inherently, the system includes a means for rendering one or more key frames associated with one or more segments of the plurality of segments,

and a means for selecting the selected segment based on the rendering of the one or more key frames.

Regarding claim 34, Dimitrova discloses when a known keyframe can be specified as the retrieval criteria, all of the extracted keyframes are compared with the given keyframe. The comparison is performed using content-based image retrieval (see col. 15, lines 1-36), and order the selected set of multimedia signal clips according to the similarity and to display the results of the selected set (see col. 14, line 55 – col. 15, line 13). Inherently, the video retrieval device including a means for identifying one or more user references, and the means for rendering the one or more key frames includes a means for determining a comparison between a classification of each segment of the plurality of segments and the one or more user preferences and the rendering of the one or more key frames is dependent upon the comparison.

Regarding claim 37, Dimitrova discloses a device as discussed in the rejection of claim 33. Inherently, the device including a means for rendering the selected segment on the display device 30.

Regarding claim 39, Dimitrova discloses the label of the FA model is assigned by the user (see col. 11, lines 48-50), or the user inputs keyword or image (see col. 15, lines 1-36). Inherently, the means for selecting the selected segment includes at least one of a pointing device such as mouse or keyboard.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 11-12, 38, 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dimitrova (US 6,363,380) as applied to claim 1 above, and in view of Dimitrova et al (US 6,137,544).

Regarding claim 11, Dimitrova discloses a system as discussed in the rejection of claim 10. However, Dimitrova does not disclose encoding of each story segment of the plurality of story segments.

Dimitrova et al. discloses encoding of each story segment of the plurality of story segment (see col. 3, lines 5-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dimitrova by utilizing encoding of each story segment of the plurality of story segments as taught by Dimitrova et al. in order to reduce the bandwidth. Inherently, the key frames are determined based upon a transform of an encoding of the story segment.

Regarding claim 12, Dimitrova et al. discloses the transform includes a discrete cosine transform, and the encoding is in an MPEG encoding (see col. 3, lines 5-34).

Regarding claim 38, Dimitrova et al discloses the VCR retrieves the selected keyframes from the index memory of the source video, the retrieved keyframes are transferred to the host processor 210 which writes the processed keyframes to display memory and displays them in a user interface such as computer display, television screen. Furthermore, Dimitrova et al discloses the user can view any video source by clicking a keyframes on the index (see col. 13, lines 5-39). Inherently, the device including a rendering control for receiving render mode options and a means for rendering portions of each segment of the plurality of segments in dependence upon the render mode options.

Regarding claim 40, Dimitrova et al discloses if user wish to view the source video at a particular keyframe, the user can select a keyframes from the index and the source tape could be automatically forwarded to a corresponding point on the source tape from where the keyframe was extracted and the source tape could be played. Inherently, the means for rendering the key frame of plurality of segments includes a multi-dimensional presentation of at least one of key frames.

7. Claims 18 –22, 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dimitrova (US 6,363,380) as applied to claim 17 above, and in view of Stern (US 6,161,107).

Regarding claim 18, Dimitrova discloses a system as discussed in the rejection of claim 17. However, Dimitrova fails to disclose the “filter” includes a sorter that associates a ranking to each story segment based on a correlation of the one or more preferences, and the one or more filtered story segments are identified based on the ranking associated with each story segment.

Stern discloses a system for retrieving information component based on keyword, visual example and graphic attributes, wherein the relevance ranking or the retrieved information component is determined both by the number and density of required keywords which appear in the information component, if any, but also is preferably calculated according to the desired visual attributes and relationships to other information components. The system includes a mechanism for learning the preferences and profile of an individual user, which can then also be used to calculate the relevance ranking of the retrieved information (see col. 7, lines 64- col. 8, line 21). Therefore, it is obvious to one of ordinary skill in the art at the time the invention was made to modify Dimitrova to provide a “sorter” as taught by Stern in order to give a efficient result of the search to user.

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Regarding claim 19, Stern discloses information components are displayed as separate icons on the screen (see col. 20, lines 20-21).

Regarding claim 20, Stern discloses a profiler that produces the one or more preferences (see col. 8, lines 18-20 or col. 16, lines 61-67).

Regarding claim 21, Stern discloses the one or more classification include keyword (see col. 7, lines 65-67).

Regarding claim 22, Dimitrova discloses storage device 20 coupled to the display device 30 (see figure 1). Inherently, the display device 30 presents a selected story segment of the one or more filtered story segments based upon the one or more key frames that are presented on the display at a time when a user effects a selection.

Regarding claim 24, Dimitrova discloses the system in the rejection of claim 17, further including a storage device 20 for storing plurality of story segments (see figure 1).

Regarding claim 25, Dimitrova discloses the storage device 20 is a VCR (see col. 8, lines 50-51).

Regarding claim 26, Stern discloses displaying text that is associated with the filtered information components.

8. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dimitrova (US 6,363,380) in view of Stern (US 6,161,107) as applied to claim 22 above, and further in view of Gilbert (US 6,337,683).

Regarding claim 23, Dimitrova in view of Stern discloses a system as discussed in the rejection of claim 22. However, neither Dimitrova nor Stern discloses the storage device presents a portion of each of the one or more filtered story segments sequentially.

Gilbert discloses the viewer 22 displays in sequence a series in images, that is, a series of key frames. For each key frame displayed the viewer 22 determines an appropriate view window. The portion of the key frame which corresponds to the view window is then de-compressed and displayed (see col. 5, lines 1-8). Inherently, the storage device presents a portion of each of the one or more filtered story segments sequentially. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dimitrova and Stern to provide a storage device presents a portion of each of the one or more filtered story segments sequentially as taught by Gilbert in order to allow a user to access a video program in order.

9. Claims 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dimitrova (US 6,363,380) as applied to claim 34 above, and in view of Gilbert (US 6,337,683).

Regarding claim 35, Dimitrova discloses a device as discussed in the rejection of claim 34. Dimitrova further discloses display device 30 for display one or more key frames. However, Dimitrova fails to disclose the one or more key frames associated with each of the one or more panes segments are displayed sequentially in the one or more panes.

Gilbert discloses the viewer 22 displays in sequence a series in images, that is, a series of key frames. For each key frame displayed the viewer 22 determines an appropriate view window. The portion of the key frame which corresponds to the view window is then de-compressed and displayed (see col. 5, lines 1-8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dimitrova to have key frames displayed sequentially in the viewer as taught by Gilbert in order to allow a user to understand the video program easily.

Regarding claim 36, Gilbert discloses the portion of the key frame which corresponds to the view window is then de-compressed and displayed (see col. 5, lines 1-8).

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yeo et al. (US 5,821,945) discloses method and apparatus for video browsing based on content and structure.

Bokser et al. (US 5,862,259) discloses pattern recognition employing arbitrary segmentation and compound probabilistic evaluation.

Elenbaas et al. (US 6,119,123) discloses method and apparatus for optimizing keyframe and blob retrieval and storage.

Hullinger et al. (US 6,295,092) discloses a system that automatically captures one or more local news program broadcast and separates the broadcast into the individual news stories or segments.

Zhang et al. (US 5,635,982) discloses an automatic video content parser for parsing video shots.

Ceccarelli (US 6,222,532) discloses method and device for navigating through video matter by means of displaying a plurality of keyframes in parallel.

Lyberg (US 5,752,227) discloses method and arrangement for speech to text conversion.


Niblack (US 6,182,069) discloses video query system and method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son P Huynh whose telephone number is 703-305-1889. The examiner can normally be reached on 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Faile can be reached on 703-305-4380. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is 703-306-0377.

Son P. Huynh
May 20, 2002


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